



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,552	10/29/2003	Masaru Seita	51565	7823

7590

10/05/2005

Peter F. Corless
EDWARDS & ANGELL, LLP
P.O. Box 9169
Boston, MA 02209

EXAMINER

LAVILLA, MICHAEL E

ART UNIT

PAPER NUMBER

1775

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,552

Applicant(s)

SEITA ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 9-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040909, 20041101</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Claims 1-8, in the reply filed on 19 September 2005 is acknowledged. The traversal is on the ground(s) that search and examination of all of the groups would be significantly overlapping. Notwithstanding any degree of overlapping subject matter, this is not found persuasive because the groups are separately classified, which indicates that search and examination of all groups would constitute a serious burden of examination. See MPEP 803.
2. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
4. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - I. Regarding Claim 1, it is unclear what is meant by the phrase "said catalyst depositing treatment." Is this a reference to depositing palladium?
 - II. Regarding Claim 2, it is unclear what is the antecedent basis of the phrase "the palladium catalyst." Must the depositing palladium function as a catalyst?

- III. Regarding Claim 4, it is unclear what is the scope of compounds encompassed by the term "derivatives." To what extent or lack of extent is another compound deemed a derivative of one of the listed compounds?

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:
7. A person shall be entitled to a patent unless –
8. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
9. Claims 1-5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kiyota et al. JP 2001-214278. Kiyota teaches coating a resin with Pd/Sn catalyst and immersing the coated resin in an electroless plating solution comprised of copper, reducing agent, and stabilizing agent, including cerium compounds. See Kiyota (Abstract; Claims 1-9; and paragraphs 7-11, 18-20, 22, 23, and 47). While Kiyota teaches that formaldehyde may be used, Kiyota also teaches that it may be omitted. Kiyota does not teach an acceleration step due to the inherent accelerating properties of the bath of Kiyota. Kiyota teaches that plating times are on the order of one or two minutes to result in layers that are 0.2 micron thick (paragraphs 21 and 22).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1775

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyota et

al. JP 2001-214278. Kiyota teaches coating a resin with Pd/Sn catalyst and immersing the coated resin in an electroless plating solution comprised of copper, reducing agent, and stabilizing agent, including cerium compounds. See Kiyota (Abstract; Claims 1-9; and paragraphs 7-11, 18-20, 22, 23, and 47). While Kiyota teaches that formaldehyde may be used, Kiyota also teaches that it may be omitted. Kiyota does not teach an acceleration step due to the inherent accelerating properties of the bath of Kiyota. Kiyota does not exemplify adding an iodated thallium compound, but suggests adding one. See Kiyota (paragraph 14). It would have been obvious to one of ordinary skill in the art at the time of the invention to use this compound in the bath of Kiyota as Kiyota teaches that it is an effective additive to Kiyota's electroless plating bath.

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kiyota et al. JP 2001-214278 in view of Shiota et al. USP 6,331,239. Kiyota teaches coating a resin with Pd/Sn catalyst and immersing the coated resin in an electroless plating solution comprised of copper, reducing agent, and stabilizing agent, including cerium compounds. See Kiyota (Abstract; Claims 1-9; and paragraphs 7-11, 18-20, 22, 23, and 47). While Kiyota teaches that formaldehyde may be used, Kiyota also teaches that it may be omitted. Kiyota does not teach an acceleration step due to the inherent accelerating properties of the bath of Kiyota. Kiyota does not teach or suggest adding hydantoin, but does teach a concern for regulating copper deposition rate. Shiota teaches adding hydantoin as a complexing agent for regulating the electroless copper deposition rate. See Shiota (col. 6, lines 1-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to use this compound in the bath of Kiyota in order to regulate the electroless copper deposition rate, which regulation is a concern of Kiyota.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone

Art Unit: 1775

number for the organization where this application or proceeding is assigned is 571-273-8300.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael La Villa
30 September 2005


MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER